

WHAT IS CLAIMED:

1. A method of removing an object from a digital image comprising,
displaying a digital image derived from digital image data,
5 overlaying a virtual frame to surround a sub-region of the digital image that
contains at least a part of the object and a portion of the digital image that does not
comprise the object,
 identifying the defect or object to be removed by apportioning the virtual frame
into object and non-object regions,
10 modifying the digital data to amend data relating to object regions so that the data
more closely resembles data of non-object regions,
 the step of modifying the digital data including combining noise into the digital
data of the object.
- 15 2. The method of claim 1 wherein the digital image data is provided in a format that
describes a perceptual color space.
3. The method of claim 2 wherein the perceptual color space is selected from
perceptual color spaces having a lightness component.
- 20 4. The method of claim 2 wherein the perceptual color space is selected from the
group consisting of CIE L*u*v* and CIE L*a*b* color spaces.
5. The method of claim 2 wherein the object is a defect.
- 25 6. The method of claim 5 wherein the defect is digital data of a defect in an original
image.
7. The method of claim 1 wherein the noise is estimated from image data in the
30 vicinity of the object.

8. The method of claim 7 wherein the noise is estimated by a process comprising sampling image data from a non-object area.
- 5 9. The method of claim 3 wherein noise is estimated from image data in the vicinity of the object, and the noise is estimated by a process comprising sampling image data from a non-object area.
- 10 10. The method of claim 4 wherein noise is estimated from image data in the vicinity of the object, and the noise is estimated by a process comprising sampling image data from a non-object area.
11. The method of claim 9 wherein the perceptual color space is selected from the group consisting of the CIE L*a*b* color space and the CIE L*u*v* color space.
- 15 12. The method of claim 1 wherein object regions and non-object regions are designated by application of a threshold value for at least one component of the digital image data for a pixel.
- 20 13. The method of claim 1 wherein boundaries between object regions and non-object regions are determined by application of a threshold value for at least one component of the digital image data for a pixel.
- 25 14. The method of claim 1 wherein the modifying of the digital data to amend data relating to object regions so that the data more closely resembles data of non-object regions includes interpolation of non-defect data.
- 30 15. The method of claim 1 wherein the modifying of the digital data to amend data relating to object regions so that the data more closely resembles data of non-object regions includes linear combination of an interpolation of non-defect data and of original image data.

16. The method of claim 14 wherein the interpolation is linear interpolation.

17. The method of claim 1 wherein the noise is random noise.

5 18. The method of claim 4 wherein the noise is sampled from non-object regions in the vicinity of the object.

19. The method of claim 11 wherein boundaries between object regions and non-object regions are determined by application of a threshold value for at least one
10 component of the digital image data for a pixel.

20. The method of claim 11 wherein the modifying of the digital data to amend data relating to object regions so that the data more closely resembles data of non-object regions includes interpolation of non-defect data.
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21. The method of claim 11 wherein the modifying of the digital data to amend data relating to object regions so that the data more closely resembles data of non-object regions includes linear combination of an interpolation of non-defect data and of original image data.
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22. The method of claim 20 wherein the interpolation is linear interpolation.

23. The method of claim 11 wherein the noise is random noise.

25 24. A computer and software in the memory of the computer that can execute the process of claim 1.

25. A computer and software in the memory of the computer that can execute the process of claim 4.
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26. A computer and software in the memory of the computer that can execute the process of claim 11.

5 27. A computer and software in the memory of the computer that can execute the process of claim 19.

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